WHAT IS CLAIMED IS:

1. A drive assembly, for alternate rotational and linear output, the assembly comprising:

an input power source providing rotational input;

a clutch assembly having a driven portion, driven by said input power source, and at least two output driving portions, a first of said output driving portions being linear output and a second of said output driving portions being rotational output.

2. The drive assembly of claim 1, wherein said driven portion of said clutch assembly is a ring gear, and said input power source drives said ring gear.

3. The drive assembly of claim 2, wherein said input power source is an electric motor, having a splined output drive to drive an exterior periphery of said ring gear.

4. The drive assembly of claim 2, wherein said first and second output driving portions are first and second clutch plates positioned on opposite sides of said ring gear.

5. The drive assembly of claim 4, wherein said assembly further comprises a first housing portion, and a shaft attached to said first housing portion, said ring gear and said first and second clutch plates being rotationally positioned on said shaft.

6. The drive assembly of claim 5, wherein said ring gear defines an electromagnet, to draw one of said clutch plates into driving engagement with said ring gear, such that when said magnet is energized, said one clutch plate is drawn into engagement with said ring gear and is driven by said ring gear.

7. The drive assembly of claim 6, wherein said second clutch plate is spring loaded into engagement with said ring gear, for normal driving engagement with said ring gear, when said electromagnet is not energized.

8. The drive assembly of claim 7, wherein said first clutch plate, when said electromagnet is energized, comes into driving engagement with said ring gear, and said second clutch plate is disengaged.

9. The drive assembly of claim 8, wherein said second clutch plate is disengaged by the lateral movement of said first clutch plate.

10. The drive assembly of claim 9, wherein said assembly includes laterally movable drive pins extending between said first and second clutch plates and through said ring gear, whereby

when said electromagnet is disengaged, said spring providing a force on said second clutch plate causing engagement of said second clutch plate against said ring gear, and said second clutch plate is driven by said ring gear, and said drive pins are engaged by said second clutch plate, and engage said first clutch plate maintaining said first clutch plate in a disengaged position; and whereby, when said electromagnet is energized, said first clutch plate moves laterally towards and against said ring gear, and forcing said drive pins in an opposite position to force said second clutch plate out of engagement with said ring gear.

11. The drive assembly of claim 8, wherein said first clutch plate has output gear teeth in constant meshing engagement with a linear rack, whereby when said first clutch plate is driven by activation of said electromagnet, said rack provides linear output.

12. The drive assembly of claim 8, wherein said second clutch plate has output gear teeth, whereby when said second clutch plate is driven, said second clutch plate provides rotational output.

13. The drive assembly of claim 6, wherein said input power source is an electric motor, having a splined output drive to drive an exterior periphery of said ring gear, and further comprising a second housing portion, said first and second housing portions enclosing said electric motor therein.

14. The drive assembly of claim 13, wherein said ring gear is comprised of a ferromagnetic material and has a bobbin of magnetic wire windings positioned within a core of said ring gear.

15. The drive assembly of claim 14, wherein said windings terminate to contact rings on an outer diameter of said ring gear.

16. The drive assembly of claim 15, further comprising a control circuit board having brushes mounted thereon in contact with said contact rings.

17. The drive assembly of claim 16, wherein said housing assembly includes an input-output port, and electrical terminals are positioned proximate said port, and electrically connected to said brushes for activation of said electromagnet.

18. An electromagnetic clutch drive assembly, comprising:

a central shaft;

a ring gear assembly, rotatably mounted to said shaft and comprised of a ferromagnetic rotor member, said rotor member having an open core portion, a ring gear positioned on an external circumferential periphery of said rotor, a bobbin of magnetic wire windings positioned within said core of said ring gear, and contacts to energize said windings to define a magnetic field;

a first clutch plate rotatably mounted to said shaft and positioned on a first side of said ring gear assembly, and being normally in a disengaged position with said ring gear assembly;

a second clutch plate rotatably mounted to said shaft and positioned on an opposite side of said ring gear assembly as said first clutch plate, and being in normal contact with said ring gear assembly; and

engagement members extending between said first and second clutch plates, whereby the lateral shifting of one of said clutch plates causes the lateral shifting of the other of said clutch plates out of engagement with said ring gear assembly;

whereby, said ring gear defines an electromagnet to draw one of said clutch plates into driving engagement with said ring gear, such that when said windings are energized, said one clutch plate is drawn into engagement with said ring gear and is driven by said ring gear.

19. The electromagnetic clutch drive assembly of claim 18, wherein said second clutch plate is spring loaded into engagement with said rotor member, for normal driving engagement with said rotor member, when said electromagnet is not energized.

20. The electromagnetic clutch drive assembly of claim 19, wherein said first clutch plate, when said electromagnet is energized, comes into driving engagement with said rotor member, and said second clutch plate is disengaged.

21. The electromagnetic clutch drive assembly of claim 20, wherein said engagement members include laterally movable drive pins extending between said first and second clutch plates and through said rotor member, whereby

when said electromagnet is disengaged said spring loading on said second clutch plate causes engagement of said second clutch plate against said rotor member, and said second clutch plate is driven by said rotor member, and said drive pins are engaged by said second clutch plate, and engage said first clutch plate maintaining said first clutch plate in a disengaged position; and whereby, when said electromagnet is energized, said first clutch plate moves laterally towards and against said rotor member, and forcing said drive pins in an opposite position to force said second clutch plate out of engagement with said rotor member.

22. The electromagnetic clutch drive assembly of claim 18, further comprising an input power source to drive said rotor member assembly, said input power source comprising an electric motor, having a splined output drive to drive said ring gear.

23. The electromagnetic clutch drive assembly of claim 22, wherein said assembly further comprises a first housing portion with said shaft attached to said first housing portion.

24. The electromagnetic clutch drive assembly of claim 23, further comprising a second housing portion, said first and second housing portions enclosing said electric motor therein.

25. The electromagnetic clutch drive assembly of claim 18, wherein said first and second clutch plates provide alternate rotational and linear output.

26. The electromagnetic clutch drive assembly of claim 25, wherein said first clutch plate has output gear teeth in constant meshing engagement with a linear rack, whereby when said first clutch plate is driven by activation of said electromagnet, said rack provides linear output.

27. The electromagnetic clutch drive assembly of claim 26, wherein said second clutch plate has output gear teeth, whereby when said second clutch plate is driven, said second clutch plate provides rotational output.

28. An electromagnetic clutch drive assembly, comprising:

a housing assembly, comprised of a main housing portion and a cover portion;

a central shaft positioned within said housing assembly;

an input power source providing rotational input;

an electromagnetic clutch assembly having a driven portion, driven by said input power source, and at least two output driving portions, a first of said output driving portions being linear output and a second of said output driving portions being rotational output, whereby activation of an electromagnet of said electromagnetic clutch assembly controls the output between the first and second output driving portions.

29. The electromagnetic clutch drive assembly of claim 28, wherein said shaft is integrally molded within said main housing portion.

30. The electromagnetic clutch drive assembly of claim 28, wherein said driven portion of said clutch assembly is a ring gear assembly, and said input power source drives said ring gear assembly.

31. The electromagnetic clutch drive assembly of claim 30, wherein said input power source is an electric motor, having a splined output drive to drive an exterior periphery of said ring gear assembly.

32. The electromagnetic clutch drive assembly of claim 31, wherein said first and second output driving portions are first and second clutch plates positioned on opposite sides of said ring gear assembly.

33. The electromagnetic clutch drive assembly of claim 32, wherein said ring gear assembly defines said electromagnet, to draw one of said clutch plates into driving engagement with said ring gear assembly, such that when said magnet is energized, said one clutch plate is drawn into engagement with said ring gear assembly and is driven by said ring gear assembly.

34. The electromagnetic clutch drive assembly of claim 33, wherein said ring gear assembly is comprised of ferromagnetic rotor member, said rotor member having an open core portion, a ring gear positioned on an external circumferential periphery of said rotor, a bobbin of magnetic wire windings positioned within said core of said ring gear, and contacts to energize said windings to define a magnetic field.

35. The electromagnetic clutch drive assembly of claim 34, wherein said main housing portion and cover portion have internal surfaces proximate to said first and second clutch plates.

36. The electromagnetic clutch drive assembly of claim 35, wherein said first and second clutch plates have exterior surfaces proximate said internal surfaces of said main housing portion and cover portion, said internal surfaces of said main housing portion and cover portion being substantially parallel with said exterior surfaces of said first and second clutch plates.

37. The electromagnetic clutch drive assembly of claim 36, wherein a width of said first and second clutch plates combined with said rotor is less than a width intermediate said internal surfaces of said main housing portion and cover portion, whereby said first and second clutch plates can either be positioned flush with said rotor or flush with said internal surfaces of said main housing portion.

38. The electromagnetic clutch drive assembly of claim 37, wherein said first and second clutch plates and rotor member have interlocking members to alternatively interlock said first clutch plate to said rotor or alternatively lock said second clutch plate to said rotor.

38. The electromagnetic clutch drive assembly of claim 38, further comprising engagement members extending between said first and second clutch plates, whereby the lateral shifting of one of said clutch plates causes the lateral shifting of the other of said clutch plates out of engagement with said rotor.

39. The electromagnetic clutch drive assembly of claim 38, wherein said engagement members include laterally movable drive pins extending between said first and second clutch plates and through said rotor member.

40. The electromagnetic clutch drive assembly of claim 39, wherein said internal surfaces of said main housing portion and said cover portion, and said external surfaces of said first and second clutch plates have interlocking engagement portions, whereby when said electromagnet is disengaged said spring loading on said second clutch plate causes interengagement of said second clutch plate against said rotor member, and said second clutch plate is driven by said rotor member, and said drive pins are engaged by said second clutch plate, and engage said first clutch plate maintaining said first clutch plate in a disengaged position with the first clutch plate interlocked to an internal surface of said main housing portion; and whereby, when said electromagnet is energized, said first clutch plate magnetically moves laterally towards and into interlocking engagement with said rotor member, and forcing said drive pins in an opposite direction to force said second clutch plate out of engagement with said rotor member and into interengagement with the internal surface of said cover portion.